

A MIGRATION OF *CYNTHIA CARDUI* L. (LEP.: NYMPHALIDAE) IN PORTUGAL

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During a visit to Portugal from 10-20 April of 1988 *Cynthia cardui* was regularly observed (Alentejo, Lisbon, Estremadura, Beira Baxia and Ribatejo) during the all too few periods when the sun broke through. There was an apparent northward bias in travelling specimens, but inefficient specimens were seen to be certain of this.

On the morning of the 20th April at the foot of the Monchique mountains in the Algarve the weather was fine. Large numbers of *Cynthia cardui* were seen basking and feeding at 10.00hrs. Gradually a very definite northwards movement developed (350°) and by 11.00 hrs. half a dozen specimens were crossing a fifty metre front every minute. Some specimens remained feeding and basking without joining the flight.

Later that day and during the two following days it was possible to establish that similar conditions ruled throughout the Algarve from Portimao to the Spanish border. The northwards migration was always most obvious when the weather was hot and sunny. Wind conditions varied considerably during the three days in question, without causing noticeable changes in direction. The direction of the migrants was verified by compass on several occasions. Their ground speed was about 30 km per hour.

The specimens were mostly somewhat worn, indicating that they had flown about for several days. Very few appeared to be freshly hatched. No case of copula or overt sexual behaviour was observed, nor was ovipositing. Despite regular sampling of patches of *Carduus* and *Malva* no evidence was found of mass breeding though occasional half grown larvae or abandoned larval tents were found. Because of their tent building habits, mass breeding of the species is usually easy to detect.

It therefore seemed likely that the origin of the specimens was North Africa. However, regular observations on the coast yielded no observations of migrants coming in from the sea. Subsequent study of a map solved this problem. If they were from North Africa, the heading indicated that they came from the level of Casablanca, a distance of about 400 km over water. This would take about 13 hours to cover, ensuring that all arrivals would be during the night. This would also explain how a continued northward migration did not appear to deplete a population of mainly worn specimens. Thus, although not conclusively proven, a Moroccan origin of the specimens is indicated.

The course of 350° leads towards Ireland. If the migrants were to have continued beyond the Iberian Peninsula, some members should have arrived in Ireland and the United Kingdom during the last week of April. Early records of *Cynthia cardui* in 1988 would almost certainly be linked to the event observed, since breeding further north in Europe could not have taken place sufficiently early in the year to provide a source.

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